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IS 5064 (1980): Specification for Tapioca Spent Pulp as Livestock Feed [FAD 5: Livestock Feeds, Equipment and Systems]



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“Knowledge is such a treasure which cannot be stolen”

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IS : 5064 - 1980

Indian Standard
SPECIFICATION FOR
TAPIOCA SPENT PULP AS LIVESTOCK FEED
(*First Revision*)

UDC 636.087.22 : 664.272



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INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

January 1981

AMENDMENT NO. 1 JULY 1995
TO
IS 5064 : 1980 SPECIFICATION FOR TAPIOCA
SPENT PULP AS LIVESTOCK FEED

(First Revision)

(Page 6, clause 5.2, line 1) — Substitute 'IS 1070 1992' for 'IS . 1070 - 1977' and in the corresponding foot-note, substitute 'Reagent grade water (third revision)' for the existing foot-note

(FAD 5)

Reprography Unit, BIS, New Delhi, India

Indian Standard

SPECIFICATION FOR TAPIOCA SPENT PULP AS LIVESTOCK FEED (*First Revision*)

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Indian Standard
SPECIFICATION FOR
TAPIOCA SPENT PULP AS LIVESTOCK FEED
(First Revision)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 28 August 1980, after the draft finalized by the Animal Feeds Sectional Committee had been approved by the Agricultural and Food Products Division Council.

0.2 Tapioca spent pulp is a by-product of the tapioca starch industry. The spent pulp which has a high content of soluble carbohydrates may be very successfully used as a source of energy in livestock feeds. In view of the availability of large quantity of tapioca spent pulp, it was considered necessary to prepare an Indian Standard specification for this product. It is expected that this standard would help the compound feed manufacturers as also other users for procuring tapioca spent pulp of a desired quality.

0.3 This standard was first published in 1969. It is being updated.

0.4 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard prescribes the requirements and the methods of sampling and test for tapioca spent pulp meant for livestock feeding.

2. REQUIREMENTS

2.1 Description — Tapioca spent pulp shall be the product obtained after the starch has been extracted from the tapioca tubers. The extracted material is subsequently dried either in the artificial driers or in

*Rules for rounding off numerical values (revised).

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the sun and pulverized. Dried tapioca spent pulp shall be in the form of a coarse powder having a creamy white to light brown colour. The material shall be free from adulterants; musty, stale or other objectionable odour; and from extraneous matter. The material shall be free from fungus and insect infestation.

2.2 Tapioca spent pulp shall also conform to the requirements prescribed in Table 1.

TABLE 1 REQUIREMENTS FOR TAPIOCA SPENT PULP AS LIVESTOCK FEED

Sr. No.	CHARACTERISTIC	REQUIREMENT	METHOD OF TEST, REF TO CLAUSE NO. OF IS : 7874 (Part I)-1975*
(1)	(2)	(3)	(4)
i)	Moisture, percent by mass, <i>Max</i>	10	4
ii)	Crude protein ($N \times 6.25$), percent by mass, <i>Min</i>	2	5
iii)	Crude fibre, percent by mass, <i>Max</i>	15	8
iv)	Total ash, percent by mass, <i>Max</i>	3	9
v)	Acid insoluble ash, percent by mass, <i>Max</i>	1.5	10

NOTE — Requirements for items (ii) to (v) are on moisture-free basis.

*Methods of tests for animal feeds and feeding stuff: Part I General methods.

3. PACKING

3.1 Unless otherwise agreed between the purchaser and the vendor, tapioca spent pulp shall be packed in clean and sound jute or laminated bags. The mouth of each bag shall be either machine-stitched or rolled over or hand-stitched.

3.2 **Marking** — Each bag shall be suitably marked or labelled so as to give the following information:

- a) Name of the material,
- b) Name of the manufacturer,
- c) Net mass of the contents, and
- d) Batch or code number.

3.2.1 Each bag may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

4. SAMPLING AND CRITERIA FOR CONFORMITY

4.1 Sampling — The representative samples of the material for tests shall be drawn according to the method prescribed in Appendix C of IS : 2052-1979*.

4.2 Number of Tests — Tests for crude protein and acid insoluble ash shall be conducted individually on each of the samples constituting a set of test samples while the tests of the remaining characteristics specified in Table 1, shall be conducted on the composite sample.

4.3 Criteria for Conformity — A lot shall be considered as conforming to the specification, when:

- a) each of the test results for crude protein and acid insoluble ash satisfied the requirements as specified in Table 1, and
- b) the test results on the composite sample satisfy the requirements for the remaining characteristics specified in Table 1.

4.3.1 If one or more test results do not satisfy the requirements for crude protein and acid insoluble ash the procedure in 4.3.1.1 shall be adopted for determining the conformity of the material for these two characteristics.

4.3.1.1 Calculate the mean and range as follows:

$$\text{Mean (} \bar{X} \text{)} = \frac{\text{sum of the test results}}{\text{Number of test samples}}$$

$$\text{Range (} R \text{)} = \text{Difference between the maximum and the minimum values of the test results}$$

The requirements for crude protein and acid insoluble ash shall be considered as fulfilled if:

$$\bar{X} - 0.4 R \text{ is equal to or greater than the requirement for crude protein, and}$$

*Specification for compounded feeds for cattle (*third revision*).

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$\bar{X} + 0.4 R$ is less than or equal to the requirement for acid insoluble ash.

5. TESTS

5.1 Tests shall be carried out as prescribed in col 4 of Table 1.

5.2 Pure chemicals and distilled water (*see* IS : 1070-1977*) shall be employed in tests.

NOTE — ' Pure chemicals ' shall mean chemicals that do not contain impurities which affect the results.

*Specification for water for general laboratory use (*second revision*).

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INDIAN STANDARDS
ON
LIVESTOCK FEEDS

IS:

- 1712-1970 Cottonseed oilcake as livestock feed (*first revision*)
- 1713-1970 Decorticated groundnut oilcake as livestock feed (*first revision*)
- 1932-1972 Mustard and rape oilcake as livestock feed (*first revision*)
- 1934-1961 Sesamum (*TIL*) oilcake as livestock feed
- 1935-1961 Linseed oilcake as livestock feed
- 2151-1962 Maize germ oilcake
- 2154-1972 Coconut oilcake as livestock feed (*first revision*)
- 2503-1963 Decorticated safflower (*KARDI*) oilcake as livestock feed
- 3440-1966 Solvent extracted linseed oilcake (meal) as livestock feed
- 3441-1966 Solvent extracted groundnut oilcake (meal) as livestock feed
- 3591-1968 Solvent extracted coconut oilcake (meal) as livestock feed (*first revision*)
- 3592-1968 Solvent extracted cottonseed oilcake (meal) as livestock feed (*first revision*)
- 3593-1968 Solvent extracted rice bran as livestock feed (*first revision*)
- 5064-1980 Tapioca spent pulp as livestock feed (*first revision*)
- 5862-1970 Solvent extracted nigerseed oilcake (meal) as livestock feed
- 6242-1971 Solvent extracted safflower oilcake (meal) as livestock feed
- 7059-1973 Solvent extracted sal seed meal for feeding livestock
- 9599-1980 Rubber seed cake as livestock feed

INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

QUANTITY	UNIT	SYMBOL
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

QUANTITY	UNIT	SYMBOL
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

QUANTITY	UNIT	SYMBOL	DEFINITION
Force	newton	N	1 N = 1 kg.m/s ²
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m ²
Frequency	hertz	Hz	1 Hz = 1 c/s (s ⁻¹)
Electric conductance	siemens	S	1 S = 1 A/V
Electromotive force	volt	V	1 V = 1 W/A
Pressure, stress	pascal	Pa	1 Pa = 1 N/m ²

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Printed at Pristograph, New Delhi, India